

# **U.S. Army Center for Health Promotion and Preventive Medicine**

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## **ATTITUDES OF NEW RECRUITS TOWARD A PRE-ENLISTMENT PHYSICAL FITNESS SCREENING TEST**

**TECHNICAL REPORT NO. 12-HF-01Q9F-06**

**U.S. Army Center for Health Promotion and Preventive Medicine  
Aberdeen Proving Ground, MD**

**Center for Accession Research  
Fort Knox, KY**

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## **U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE**

*The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) lineage can be traced back over 50 years to the Army Industrial Hygiene Laboratory. That organization was established at the beginning of World War II and was under the direct jurisdiction of The Army Surgeon General. It was originally located at the Johns Hopkins School of Hygiene and Public Health, with a staff of three and an annual budget not to exceed \$3000. Its mission was to conduct occupational health surveys of Army operated industrial plants, arsenals, and depots. These surveys were aimed at identifying and eliminating occupational health hazards within the Department of Defense's (DOD) industrial production base and proved to be beneficial to the Nation's war effort.*

*Until 1995, it was nationally and internationally known as the U.S. Army Environmental Hygiene Agency or AEHA. Its mission is expanding to support the worldwide preventive medicine programs of the Army, DOD and other Federal Agencies through consultations/ supportive services; investigations and training.*

*Today, AEHA is redesignated the U.S. Army Center for Health Promotion and Preventive Medicine. Its mission for the future is to provide worldwide technical support for implementing preventive medicine, public health and health promotion/wellness services into all aspects of America's Army and the Army Community anticipating and rapidly responding to operational needs and adaptable to a changing work environment.*

*The professional disciplines represented at the Center include chemists, physicists, engineers, physicians, optometrists, audiologists, nurses, industrial hygienists, toxicologists, entomologists, and many other as well as sub-specialties within these professions.*

*The organization's quest has always been one of excellence and continuous quality improvement; and today its vision, to be the nationally recognized Center for Health Promotion and Preventive Medicine, is clearer than ever. To achieve that end, it holds ever fast to its values which are steeped in its rich heritage:*

- ◆ *Integrity is the foundation*
- ◆ *Excellence is the standard*
- ◆ *Customer satisfaction is the focus*
- ◆ *Its people are the most valued resource*
- ◆ *Continuous quality improvement is its pathway*

*The organization, which stands on the threshold of even greater challenges and responsibilities, has General Officer leadership. As it moves into the next century, new programs are being added related to health promotion/wellness, soldier fitness and disease surveillance. As always, its mission focus is centered upon the Army Imperatives so that we are trained and ready to enhance the Army's readiness for war and operations other than war.*

*It is an organization fiercely proud of its history, yet equally excited about the future. It is destined to continue its development as a world-class organization with expanded services to the Army, DOD, other Federal Agencies, the Nation and the World Community.*



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**EXECUTIVE SUMMARY**

**TECHNICAL REPORT NO. 12-HF-01Q9F-06**  
**ATTITUDES OF NEW RECRUITS TOWARD A**  
**PRE-ENLISTMENT PHYSICAL FITNESS SCREENING TEST**

**1. INTRODUCTION.** The Center for Accessions Research (CAR) requested that the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) determine potential changes in applicant behavior if a pre-enlistment physical fitness test (PFT) was implemented. A question was added to the New Recruit Survey (NRS), a self-administered questionnaire sent to recently enlisted recruits, to accomplish this task.

**2. METHODS.** We added the following question to the NRS: "If you were told you had to perform a simple physical fitness test before you joined the Army, what would you do?" The response categories were: "a. Nothing—I am physically fit enough to pass the test, b. Nothing—I would just take the test and see what happens, c. Train for the test—I am uncertain if I am physically fit to pass the test right now, d. Not take the test and not join the Army, e. Consider another military service that does not have a fitness test, f. Other". Respondents' demographics (age, height, weight, race/ethnicity, enlistment term/bonus) were extracted from recruit personnel databases and used to compare survey responses for different groups of recruits.

**3. RESULTS.** There were 1399 male and 459 female respondents to the NRS. More than half the men indicated that they had sufficient physical fitness to take and pass the test. By contrast, more than half the women were uncertain if they were sufficiently fit to pass the test at the time of enlistment and would train for the test. Very few men and women reported that they would consider joining another service or not take the test and not join the Army. Compared to the men who would take the PFT, men who would not take the PFT had higher body mass index and body weight. Men who reported that they would not take the test received higher enlistment bonuses than the men who would take the PFT. The converse was true for the women. Overall, men received higher bonuses than women.

**4. CONCLUSION.** Almost all recruits were willing to take a pre-enlistment PFT. The data might suggest that a pre-enlistment PFT could deter heavier men from joining the Army.

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**USACHPPM TECHNICAL REPORT NO. 12-HF-01Q9F-06**  
**ATTITUDES OF NEW RECRUITS TOWARD A**  
**PRE-ENLISTMENT PHYSICAL FITNESS SCREENING TEST**

**1. REFERENCES.** Appendix A includes the references cited in this report.

**2. INTRODUCTION.**

a. The Center for Accessions Research (CAR) requested assistance from the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) in determining potential changes in U.S. Army applicant behavior if a pre-enlistment physical fitness test (PFT) was implemented. A potential enlistee would have to pass the test before he could be inducted into the Army.

b. The high physical demands of initial military training (IMT) and occupational Army tasks require a relatively high level of physical fitness (1). Previous studies have demonstrated that lower physical fitness is an independent risk factor for attrition (2,3) and injuries (4,5) in Basic Combat Training. However, the requirement to take a PFT could also deter less-fit individuals from seeking entry into the Army even though they might be able to achieve the fitness levels necessary to successfully complete IMT.

c. The purpose of this report is to describe the attitudes of new Army enlistees toward a pre-enlistment PFT. New enlistees were asked a simple question to elicit their opinion on this issue.

**3. METHODS.**

a. In order to assess the possible effects of a pre-enlistment PFT on applicant behavior, a topical question was added to the New Recruit Survey (NRS). The NRS is a self-administered questionnaire sent to a stratified random sample of recently enlisted recruits. Each month an analyst at the CAR selects a sample of new recruits from the Recruit Quota System (REQUEST) database who are in the Delayed Entry Program (DEP). The DEP allows individuals to sign up for and delay entry into the military for up to one year. More than 80% of recruits enter the service through this program where they can master elementary soldiering skills and gain rank prior to beginning Basic Combat Training (1,6). To ensure representation of the various demographic categories, the sample obtained by the CAR is stratified on race/ethnicity and gender. The CAR personnel forward each list of randomly selected recruits to a contractor who is responsible for labeling surveys with barcodes identifying individual respondents and mailing them to the recruits at their homes. Completed surveys are returned to the CAR where personnel compile the data.

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b. The NRS has six sections. The first five sections relate to interest in the military, concern for the future, motivation for enlisting, Army advertising, decision influences, current issues, and incentive programs. Section 6 is reserved for topical questions that can change throughout the year. To determine new recruit attitudes toward a pre-enlistment PFT, we added the following question to Section 6 of the 2003 survey: "If you were told you had to perform a simple physical fitness test before you joined the Army, what would you do?" The response categories were: "a. Nothing—I am physically fit enough to pass the test, b. Nothing—I would just take the test and see what happens, c. Train for the test—I am uncertain if I am physically fit to pass the test right now, d. Not take the test and not join the Army, e. Consider another military service that does not have a fitness test, f. Other". Recruits' responses to that question were supplied to USACHPPM by the CAR along with the respondents' demographics (age, height, weight, race/ethnicity, enlistment term/bonus) extracted from REQUEST.

c. Data for men and women were considered separately. T-tests were used to compare mean values of continuous data; Chi-square tests were used to compute statistical differences in levels of categorical variables.

#### **4. RESULTS.**

a. The CAR received 1858 completed NRS (1399 from men, 459 from women). The demographic characteristics of male and female survey respondents are presented in Table 1. Compared to women, the men were slightly older and predominantly white. In addition, the men received substantially larger enlistment bonuses (2.7 times greater) and signed longer military service contracts than women. Although the majority of male and female recruits earned high school degrees, more men than women completed their secondary education with a General Educational Development (GED).

b. Table 2 shows the number and proportion of men and women in each response category on the NRS question. Of the male and female survey respondents, 98% (n=1821) answered the topical question concerning administration of a pre-enlistment PFT. Over half of the men indicated that they had sufficient physical fitness to take and pass the test; less than 0.5% said that they would consider joining another service or not take the test/not join the Army. On the other hand, 52.7% of women were uncertain if they were sufficiently fit to pass the test at the time of enlistment and would train for the test. Less than 1% of women would consider joining another service or not take the test/not join the Army.

c. Respondents were classified into two groups: test-takers and non test-takers. Test-takers indicated they would take a pre-enlistment PFT (response categories a through c) and non test-takers said they would not take the test (response categories d and e). Table 3 contrasts the demographic characteristics of test-takers and non test-takers. Compared to male test-takers (MTT), male non test-takers (MNT) had higher body mass index and body weight. Average bonus amounts were also greater for MNT than for MTT. In contrast, female test-takers (FTT) had higher bonus amounts than female non test-takers (FNT).

Table 1. Demographic Characteristics of Men versus Women<sup>1</sup>

Variable	Men	Women	p-value
Age (yrs)	21±4	20±4	0.05*
BMI (kg/m <sup>2</sup> )	24.3±3.7	22.7±2.6	0.00*
Height (in)	69±3	64±2	0.00*
Weight (lbs)	167±29	134±19	0.00*
Bonus (dollars)	1471±3248	545±2167	0.00*
Education (yrs)	12.1±1.3	12.1±1.1	0.38*
Race			0.00 <sup>§</sup>
White	70.6%	54.2%	
Black	11.2%	23.7%	
Hispanic	12.2%	16.8%	
Other	6.1%	5.2%	
Marital Status			0.61 <sup>§</sup>
Single	89.1%	87.6%	
Married	9.5%	11.1%	
Other	1.4%	1.3%	
Dependents			0.57 <sup>§</sup>
≥ 1	11.3%	12.2%	
None	88.7%	87.8%	
Enlistment Term (months)			0.01 <sup>§</sup>
24-48	72.5%	78.6%	
>48	27.5%	21.4%	
Education Tier			0.00 <sup>§</sup>
HS grad	90.7%	96.9%	
GED or equal	8.9%	3.1%	
No HS degree	0.4%	0.0%	

<sup>1</sup>Mean±SD reported for continuous data; proportion (%) reported for categorical data

\*p-value from T-test; statistical difference between groups if p&lt;0.05

<sup>§</sup>p-value from Chi-square; statistical difference between groups if p<0.05

Table 2. Frequency of Responses and Proportions of Sample

Response Category	Men		Women	
	N	%	N	%
a. Nothing – fit enough to pass	802	57.3	128	27.9
b. Nothing – see what happens	155	11.1	65	14.2
c. Uncertain fitness – train for test	379	27.1	242	52.7
d. Not take test/not join Army	3	0.2	3	0.7
e. Consider other service	3	0.2	1	0.2
f. Other	29	2.1	11	2.4
Missing	28	2.0	9	2.0



Table 3. Demographic Characteristics of Test-Takers versus Non Test-Takers<sup>1</sup>

Demographic	Men			Women		
	Test-Takers	Non Test-Takers	p-value	Test-Takers	Non Test-Takers	p-value
Age (yrs)	20±4	20±3	0.99*	20±4	19±3	0.29*
BMI (kg/m <sup>2</sup> )	24.3±3.7	25.8±3.9	0.02*	22.7±2.6	22.7±3.7	0.97*
Height (in)	69.4±2.8	69.4±3.5	0.88*	64.3±2.4	65.0±2.5	0.23*
Weight (lbs)	166.7±29.3	177.7±38.4	0.03*	133.4±19.0	136.7±26.6	0.64*
Bonus (dollars)	1437±3227	2942±4214	0.04*	572±2222	0±0	0.00*
Education (yrs)	12.1±1.3	12.3±1.5	0.47*	12.1±1.1	12.1±1.7	0.98*
Race			0.70 <sup>§</sup>			0.17 <sup>§</sup>
White	70.8%	71.4%		54.3%	66.7%	
Black	11.2%	5.7%		23.4%	26.7%	
Hispanic	12.1%	14.3%		17.2%	6.7%	
Other	6.0%	8.6%		5.1%	0.0%	
Marital Status			0.78 <sup>§</sup>			0.76 <sup>§</sup>
Single	88.9%	88.6%		87.4%	93.3%	
Married	9.7%	11.4%		11.3%	6.7%	
Other	1.4%	0.0%		1.4%	0.0%	
Dependents			1.00 <sup>§</sup>			0.52 <sup>§</sup>
≥ 1	11.5%	11.4%		12.2%	6.7%	
None	88.5%	88.6%		87.8%	93.3%	
Enlistment Term (months)			0.20 <sup>§</sup>			0.92 <sup>§</sup>
24-48	72.6%	62.9%		78.9%	80.0%	
>48	27.4%	37.1%		21.1%	20.0%	
Education Tier			0.92 <sup>§</sup>			0.42 <sup>§</sup>
HS grad	90.7%	91.4%		97.0%	93.3%	
GED or equal	8.8%	8.6%		3.0%	6.7%	
No HS degree	0.4%	0.0%		0.0%	0.0%	

<sup>1</sup>Mean±SD reported for continuous data; proportion (%) reported for categorical data

\*p-value from T-test; statistical difference between groups if p&lt;0.05

<sup>§</sup>p-value from Chi-square; statistical difference between groups if p<0.05

d. Table 4 displays the range of enlistment bonus amounts survey respondents received. The vast majority of recruits enlisted in the Army without accepting a financial incentive. Maximum monetary bonus amounts for MTT and MNT were, respectively, \$7,000 and \$20,000. None of the FTT received financial incentives for enlisting; the maximum dollar amount provided to a FNT was \$18,000.

Table 4. Enlistment Bonus Amounts for New Recruits

Bonus Amount (dollars)	Men		Women	
	Test-Takers	Non Test-Takers	Test-Takers	Non Test-Takers
0	66.7%	74.9%	100.0%	90.8%
1,000	0.0%	2.2%	0.0%	1.5%
2,000	16.7%	4.2%	0.0%	0.9%
3,000	0.0%	3.9%	0.0%	0.7%
4,000	0.0%	0.8%	0.0%	0.7%
5,000	0.0%	1.9%	0.0%	1.1%
6,000	0.0%	2.6%	0.0%	1.5%
7,000	16.7%	3.6%	0.0%	0.2%
8,000	0.0%	1.0%	0.0%	0.7%
9,000	0.0%	0.6%	0.0%	0.4%
≥10,000	0.0%	4.4%	0.0%	1.4%

## 5. DISCUSSION.

a. The information obtained from this data analysis indicates that almost all recruits are willing to take a pre-enlistment PFT. Men who reported they would not take the test weighed more and had higher BMI than men who were willing to perform a PFT. This may suggest that a PFT would deter heavier men from joining the Army.

b. When interpreting the results, one should consider that the survey respondents had already enlisted in the Army. People who visited recruiting offices and did not enlist are not included. Such individuals might feel differently about taking a pre-enlistment PFT than the newly enlisted recruits.

c. Enlistment bonuses vary greatly among individuals and, specifically, between men and women. These cash incentives are designed to increase the quality and number of recruits in hard to fill military occupational specialties (MOS) including infantry and Special Forces (7). Women are excluded from serving in many of the combat arms branches that warrant the highest enlistment bonuses. Therefore the differences observed in this sample of new recruits were expected.

d. Administration of a pre-enlistment PFT could be used to establish a database to determine the entry-level fitness levels of U.S. Army applicants. Such a database would serve as a surveillance system tracking changes in fitness over time.

6. POINT OF CONTACT. Refer questions pertaining to this report to Ms. Salima Darakjy at (410) 436-8447, DSN 584-8447 or by e-mail: [salima.darakjy@us.army.mil](mailto:salima.darakjy@us.army.mil)

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## **APPENDIX A REFERENCES**

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**APPENDIX B**  
**ACKNOWLEDGEMENTS**

Ms. Claudia Tamplin provided extremely useful information concerning the New Recruit Survey. We appreciate her expert assistance.